

# Point Prevalence of Gastrointestinal Helminthiasis in Buffaloes of Jammu, India

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**Abstract:** The present study was carried out to determine the prevalence of gastrointestinal helminthiasis in buffaloes of Jammu area of Jammu And Kashmir State for the period of one year. For this purpose, 173 faecal samples were collected from different areas (Bisnah, R S Pura, Sidrah, Jammu city and Akhnoor) of subtropical Jammu. Parasitological procedures used for the identification of helminthes were direct and indirect methods. The overall prevalence of helminthiasis was 38.72%. Helminthic infection was recorded throughout the year with seasonal variations.

**Keywords:** Gastrointestinal Helminthiasis, Buffaloes, Prevalence, Jammu, Faecal samples, Seasonal variations.

## INTRODUCTION

The prevalence of helminthes in tropical and subtropical areas has reduced production potential of livestock development programmes by causing countless deaths and economic losses [1]. Helminthic infection is a major constraint of livestock and causes great economic losses to dairy industry of retarded growth, low productivity and increased susceptibility of animals to other diseases. In spite of significant production losses, which may run into millions of rupees [2], the problem is persisting because of chronic and insidious nature. Helminthiasis adversely affects ruminants e.g. hematological and biochemical disturbances [3-4]. The incidence of parasites in buffaloes has been reported from different states of India [5-7]. In Jammu and Kashmir the incidence has been reported by [8-10, 12]. The present investigation records and highlights the prevalence and other epidemiological parameters of gastrointestinal helminthiasis in buffaloes of Jammu in order to add more information to already existing information.

## MATERIALS AND METHODS

### Study Area and Sample Collection

The study area is subtropical area located between 74.24° and 75.18° and between 32.50° and 33.30° N. The annual rainfall in subtropical Jammu is 1115.9mm.

In total of 173 faecal samples collected over a period of one year from November 2007 to October 2008 from the study areas like Bisnah, R S Pura,

Sidrah, Jammu city and Akhnoor. The samples were collected either directly from the rectum or when freshly passed and subjected to direct microscopic examination as well as Sedimentation and floatation methods [13].

### Parasitological Procedures

Faecal samples were examined for helminth eggs using direct and sedimentation/ floatation techniques [13]. Identification of eggs was made according to the description given by [13].

## RESULTS AND DISCUSSION

Out of the 173 samples collected, 67 (38.72%) were found positive for single mixed helminthic infection. Among various infections, maximum incidence was of trematodes (15.6%) followed by nematodes (19.07%) and minimum of cestodes (4.04%). The most prevalent helminth parasites isolated were *Paramphistomum spp.* (12.71%), *Haemonchus spp.* (9.82%), *Chabertia spp.* (6.35%), *Trichurs spp.* (2.89%) *Stilesia spp.* (2.89%), *Fasciola spp.* (1.73%), *Dicrocillium spp.* (1.15%), *Moniezia spp.* (1.15%), and as shown in Table 1. The infection was recorded maximum in summer and spring and lowest in autumn and winter as shown in Table 2.

The helminthes isolated in the present study are in agreement with the previous findings of [8-10, 11]. The present findings are in agreement of the helminthic infection reported in other subtropical areas of the world [14-18, 11]. However, these workers have also recorded the occurrence of other helminth and this regional variation may be attributed to different geographical distributions, host factors and climatic conditions required for the development of free living

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**Table 1: Species Wise Prevalence of Gastrointestinal Helminth Parasites in Buffaloes.**

S. No	Species	Total samples examined	Total samples positive	Prevalence percentage
8	<i>Stilesia spp.</i>	173	5	2.89
7	<i>Moniezia spp.</i>	173	2	1.15
6	<i>Chabertia spp.</i>	173	11	6.35
5	<i>Haemonchus spp.</i>	173	17	9.82
4	<i>Trichuris spp.</i>	173	5	2.89
3	<i>Fasciola spp.</i>	173	3	1.73
2	<i>Dicrocoelium spp.</i>	173	2	1.15
1	<i>Paramphistomum spp.</i>	173	22	12.71
	Total	173	67	38.72

**Table 2: Seasonal Prevalence of Gastrointestinal Helminthes in Buffaloes.**

S. No.	Season	No. of samples examined	No. of samples positive	Percentage of infection
1	Summer	42	32	76.19
2	Autumn	44	5	11.36
3	Winter	49	16	32.65
4	spring	38	14	36.84
	Total	173	67	38.72

stages of the nematodes. The maximum prevalence of amphistomes in the present study is in agreement with [10, 12]. Wallowing habit, easy dispersion of faeces in water and bulk ingestion of grasses near the water sources increases the risk of amphistomes due to availability of intermediate host [19]. Although [20] recommended strategic dosing against fluke diseases in ruminants in India, non-adaptation of strategic deworming schedule in the region is responsible for high parasitic infection.

The higher helminthic infection as observed in summer and spring months are in agreement with [7, 21, 22].

## CONCLUSION

Keeping in view the present findings, it can be concluded that there is urgent need for chemotherapeutic and prophylactic strategies for the helminthes control in this region of Jammu And Kashmir State.

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